



EV76C660/EV76C661

# Ruby family

B&W and colour CMOS sensors

CIVIL AEROSPACE

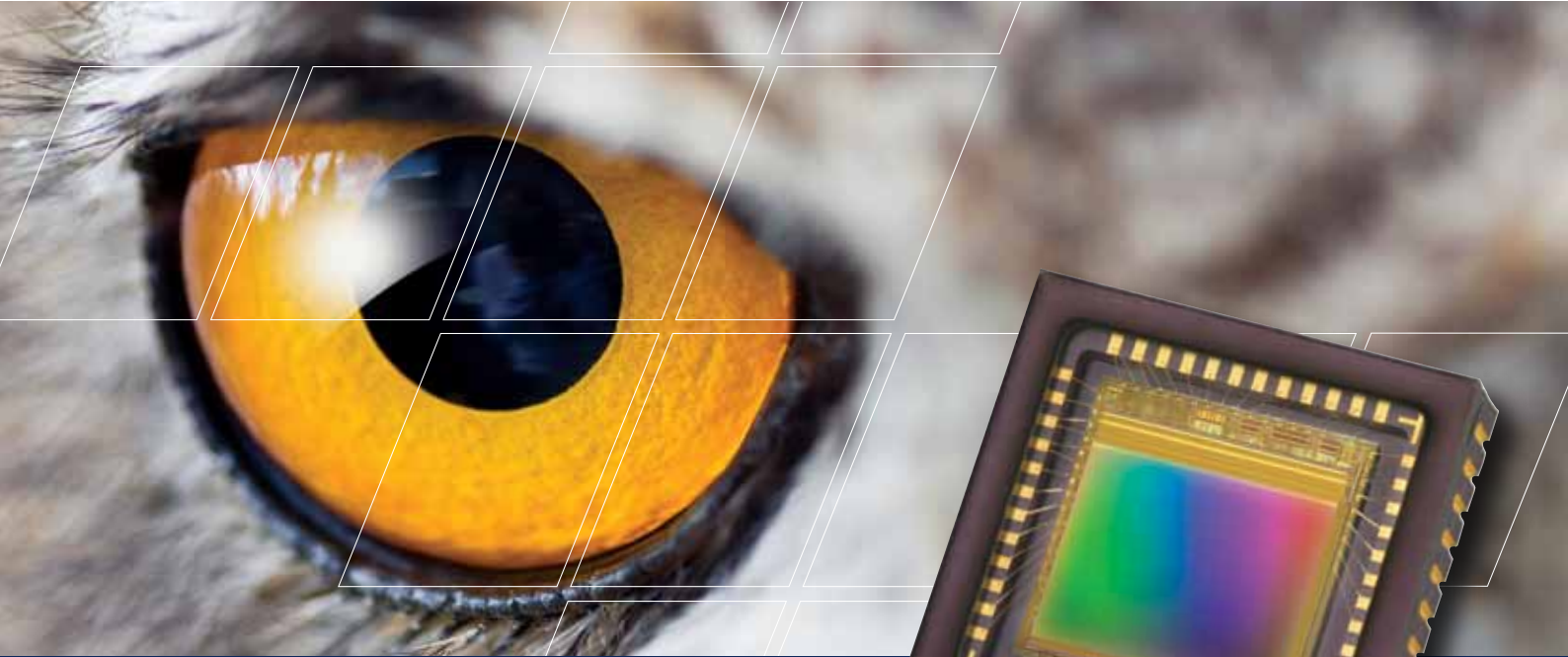
DEFENCE

SPACE

INDUSTRIAL

MEDICAL & SCIENCE

SECURITY & RESCUE



Enhanced vision, seeing beyond the limits

## KEY FEATURES

- 1.3 million pixels (1280 x 1024), 5.3 $\mu$ m square pixels with micro-lens
- Enhanced sensitivity in the near infrared region
- High quantum efficiency (peak > 70%)
- Low noise, rolling shutter allowing true CDS and global reset for best SNR (EV76C660)
- Global shutter for sharp images of fast moving objects (EV76C661)
- High speed: 60 fps at full resolution, low light CMOS sensor
- Multiple simultaneous regions of interest (4 separate windows)
- Linear dynamic range > 62dB @ 25°C with possible HDR modes
- Low power consumption, < 200 mW
- Operating temperature (-30°C to +65°C)
- Package: CLCC 48 12.7 x 12.7mm
- System-on-chip with SPI control and 10 bits parallel outputs

## APPLICATIONS

EV76C660:

- Surveillance IP/CCTV cameras
- Defence & security
- Biometrics/Medical applications

EV76C661:

- Industrial machine vision
- Barcode reading/scanners
- Smart cameras
- Intelligent traffic systems

# EV76C660/EV76C661

Ruby family, B&W and colour CMOS sensors

ORDER  
CODES

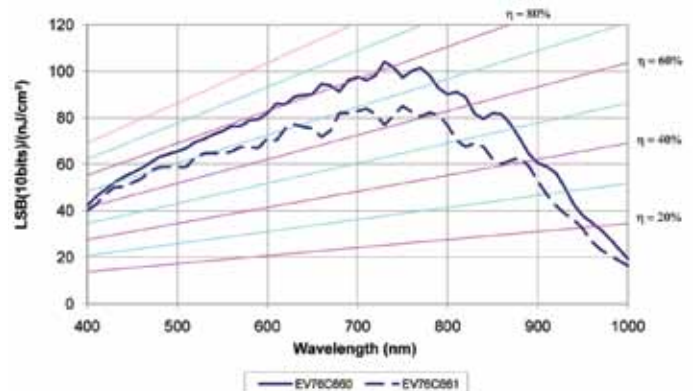
EV76C660ABT: B&W, rolling shutter  
EV76C660ACT: Colour, rolling shutter  
EV76C661ABT: B&W, global shutter  
EV76C661ACT: Colour, global shutter

The EV76C660 and EV76C661 are the newest members of e2v's Ruby family of CMOS imaging sensors. These breakthrough devices provide sensitivity and performance beyond that considered possible on a front side illuminated sensor with a pixel size of  $5.3\mu\text{m}$ , Quantum Efficiency (QE) of over 80% and excellent sensitivity and performance in the near-infrared (NIR) spectrum (>50% at 850nm). This significantly reduces system illumination costs, or enables very low-light imaging in outdoor camera applications. The EV76C660 and EV76C661 share the same package, pin-out and software interface as e2v's Sapphire family of imaging sensors, enabling them to provide a range of differentiated industrial camera products from a single hardware and software development effort.

## Sensor characteristics – EV76C660, rolling shutter

| SENSOR CHARACTERISTICS |                            |                                       |
|------------------------|----------------------------|---------------------------------------|
| Resolution             | pixels                     | 1280 (H) x 1024 (V)                   |
| Image size             | inches                     | 1/1.8                                 |
| Pixel size (square)    | $\mu\text{m}$              | $5.3 \times 5.3$                      |
| Aspect ratio           |                            | 5/4                                   |
| Max frame rate         | fps                        | 60 @ full format<br>>100 @ VGA format |
| Pixel rate             | Mpixels/s                  | 90 to 120                             |
| PIXEL PERFORMANCE      |                            |                                       |
| Bit depth              | bits                       | 10                                    |
| Dynamic range          | dB                         | >66 (linear)<br>>100 (HDR) mode       |
| SNR max                | dB                         | 39                                    |
| Responsivity           | LSB <sub>10</sub> /(Lux/s) | 15000                                 |

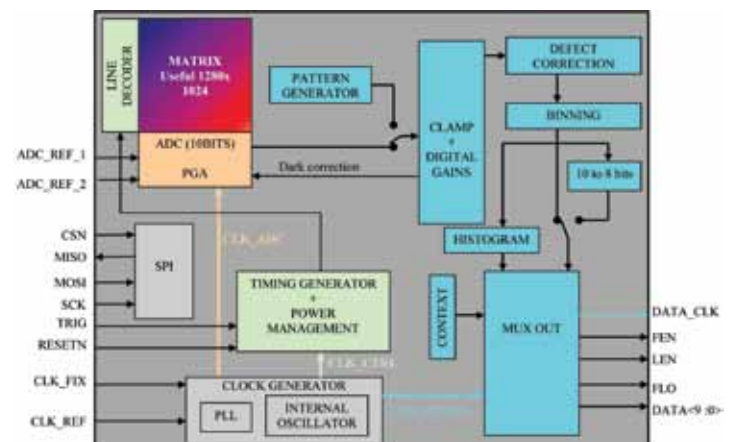
## SPECTRAL RESPONSE AND QUANTUM EFFICIENCY



## Sensor characteristics – EV76C661, global shutter

| SENSOR CHARACTERISTICS |                            |                                       |
|------------------------|----------------------------|---------------------------------------|
| Resolution             | pixels                     | 1280 (H) x 1024 (V)                   |
| Image size             | inches                     | 1/1.8                                 |
| Pixel size (square)    | $\mu\text{m}$              | $5.3 \times 5.3$                      |
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| PIXEL PERFORMANCE      |                            |                                       |
| Bit depth              | bits                       | 10                                    |
| Dynamic range          | dB                         | >63 (linear)<br>>100 (HDR) mode       |
| SNR max                | dB                         | 39                                    |
| Responsivity           | LSB <sub>10</sub> /(Lux/s) | 13000                                 |

## SENSOR OVERVIEW



Contact us online at:

[e2v.com/contact-us](http://e2v.com/contact-us)